



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address COMMISSIONER FOR PATENTS
P.O. Box 1456
Alexandria, Virginia 22303-1456
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/038,940	07/22/1999	WHONCHIEE LEE	3028.1US-96	2152

7590 06/04/2004

JOSEPH A WALKOWSKI
TRASK BRITT & ROSSA PC
P O BOX 2550
SALT LAKE CITY, UT 84110

EXAMINER

VINH LAN

ART UNIT

PAPER NUMBER

1765

DATE MAILED: 06/04/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.	Applicant(s)	
09/358,940	LEE ET AL.	
Examiner	Art Unit	
Lan Vinh	1765	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 March 2004.
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4 and 6-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4 and 6-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-3, 8 are rejected under 35 U.S.C. 102(e) as being anticipated by Laou et al (US 5,857,885)

Laou discloses a method for etching using a wet etching solution containing :

acetic acid/claimed organic acid and hydrofluoric acid/claimed fluoride containing solution (col 4, lines 54-55) which reads on an etchant solution consisting essentially of an organic acid and a fluorine-containing solution because "A consisting essentially of claim occupies a middle ground between closed claims that are written in a consisting offomat and fully open claims that are drafted in a comprising' format." PPG Industries v. Guardian Industries, 156 F.3d 1351, 1354, 48 USPQ2d 1351, 1353-54 (Fed. Cir. 1998). See also Atlas Powder v. E.I. duPont de Nemours & Co., 750 F.2d 1569, 224 USPQ 409 (Fed. Cir. 1984); In re Janakirama-Rao, 317 F.2d 951, 137 USPQ 893 (CCPA 1963); Water Technologies Corp. vs. Calco, Ltd., 850 F.2d 660, 7 USPQ2d 1097 (Fed. Cir. 1988). For the purposes of searching for and applying prior

Art Unit: 1765

art under 35 U.S.C. 102 and 103, absent a clear indication in the specification or claims of what the basic and novel characteristics actually are, "consisting essentially of" will be construed as equivalent to "comprising." See, e.g., PPG, 156 F.3d at 1355, 48 USPQ2d at 1355. Laou also discloses that the volumetric ratio of acetic acid to hydrofluoric acid is 10:1 (col 4, lines 55-56). It is noted that no patentable weight is given to the phrase "which selectively etches BPSG over TEOS" because the intended use of composition is not patentably significant. *In re Alberton* 141 USPQ 730 (CCPA 1964); *In re Heck* 114 USPQ 161 (CCPA 1957).

The limitations of claims 2-3 have been discussed above.

Regarding claim 8, it is noted that no patentable weight is given to the phrase "wherein said etchant solution exhibits a selectivity ratio of BPSG over TEOS between about 27:1 and 55:1" because the intended use of composition is not patentably significant. *In re Alberton* 141 USPQ 730 (CCPA 1964); *In re Heck* 114 USPQ 161 (CCPA 1957).

3. Claims 1-4, 6-7 are rejected under 35 U.S.C. 102(b) as being anticipated by Martin et al (US 4,230,522)

Martin discloses a method for etching using a wet etching solution containing : glacial acetic acid/claimed organic acid, (49%) hydrofluoric acid/claimed fluoride containing solution, (40%) ammonium fluoride (col 4, lines 48-53). col 4, lines 54-55) which reads on an etchant solution consisting essentially of an organic acid and a fluorine-containing solution because "A consisting essentially of" claim occupies a

middle ground between closed claims that are written in a 'consisting of' format and fully open claims that are drafted in a 'comprising' format." PPG Industries v. Guardian Industries, 156 F.3d 1351, 1354, 48 USPQ2d 1351, 1353-54 (Fed. Cir. 1998). See also Atlas Powder v. E.I. duPont de Nemours & Co., 750 F.2d 1569, 224 USPQ 409 (Fed. Cir. 1984); In re Janakirama-Rao, 317 F.2d 951, 137 USPQ 893 (CCPA 1963); Water Technologies Corp. vs. Calco, Ltd., 850 F.2d 660, 7 USPQ2d 1097 (Fed. Cir. 1988). For the purposes of searching for and applying prior art under 35 U.S.C. 102 and 103, absent a clear indication in the specification or claims of what the basic and novel characteristics actually are, "consisting essentially of" will be construed as equivalent to "comprising." See, e.g., PPG, 156 F.3d at 1355, 48 USPQ2d at 1355. Martin also discloses that the volumetric proportion/ratio of glacial acetic acid to hydrofluoric acid is 5:0.05/100:1 (col 4, lines 55-56). It is noted that no patentable weight is given to the phrase "which selectively etches BPSG over TEOS" because the intended use of composition is not patentably significant. *In re Alberton* 141 USPQ 730 (CCPA 1964); *In re Heck* 114 USPQ 161 (CCPA 1957).

The limitations of claims 2-4, 6-7 have been discussed above.

4. Claims 9-11 are rejected under 35 U.S.C. 102(e) as being anticipated by Laou et al (US 5,857,885)

Laou discloses a method for etching using a wet etching solution containing : acetic acid/claimed organic acid and hydrofluoric acid/claimed fluoride containing solution (col 4, lines 54-55), which reads on an etchant solution consisting essentially of

Art Unit: 1765

an organic acid and a fluorine-containing solution because "A consisting essentially of claim occupies a middle ground between closed claims that are written in a consisting offormat and fully open claims that are drafted in a comprising' format." PPG Industries v. Guardian Industries, 156 F.3d 1351, 1354, 48 USPQ2d 1351, 1353-54 (Fed. Cir. 1998). See also Atlas Powder v. E.I. duPont de Nemours & Co., 750 F.2d 1569, 224 USPQ 409 (Fed. Cir. 1984); *In re Janakirama-Rao*, 317 F.2d 951, 137 USPQ 893 (CCPA 1963); *Water Technologies Corp. vs. Calco, Ltd.*, 850 F.2d 660, 7 USPQ2d 1097 (Fed. Cir. 1988). For the purposes of searching for and applying prior art under 35 U.S.C. 102 and 103, absent a clear indication in the specification or claims of what the basic and novel characteristics actually are, "consisting essentially of" will be construed as equivalent to "comprising." See, e.g., PPG, 156 F.3d at 1355, 48 USPQ2d at 1355. It is noted that no patentable weight is given to the phrase "which selectively etches BPSG over TEOS" and "wherein the etchant solution exhibits a selectivity ratio of BPSG over TEOS between about 27:1 and 55:1" because the intended use of composition is not patentably significant. *In re Alberton* 141 USPQ 730 (CCPA 1964); *In re Heck* 114 USPQ 161 (CCPA 1957).

5. Claims 9-15 are rejected under 35 U.S.C. 102(b) as being anticipated by Martin et al (US 4,230,522)

Martin discloses a method for etching using a wet etching solution containing : glacial acetic acid/claimed organic acid, (49%) hydrofluoric acid/claimed fluoride containing solution, (40%) ammonium fluoride, which reads on an etchant solution

consisting essentially of an organic acid and a fluorine-containing solution because "A consisting essentially of" claim occupies a middle ground between closed claims that are written in a consisting of format and fully open claims that are drafted in a comprising' format." PPG Industries v. Guardian Industries, 156 F.3d 1351, 1354, 48 USPQ2d 1351, 1353-54 (Fed. Cir.1998). See also Atlas Powder v. E.I. duPont de Nemours & Co., 750 F.2d 1569, 224 USPQ 409 (Fed. Cir. 1984); *In re Janakirama-Rao*, 317 F.2d 951, 137 USPQ893 (CCPA 1963); *Water Technologies Corp. vs. Calco, Ltd.*, 850 F.2d 660, 7 USPQ2d 1097 (Fed. Cir. 1988). For the purposes of searching for and applying prior art under 35 U.S.C. 102 and 103, absent a clear indication in the specification or claims of what the basic and novel characteristics actually are, "consisting essentially of" will be construed as equivalent to "comprising." See, e.g., PPG, 156 F.3d at 1355, 48 USPQ2d at 1355. Martin also discloses that the volumetric proportion/ratio of glacial acetic acid to hydrofluoric acid is 5:0.05/100:1 (col 4, lines 55-56). It is noted that no patentable weight is given to the phrase "which selectively etches BPSG over TEOS" and "wherein the etchant solution exhibits a selectivity ratio of BPSG over TEOS between about 27:1 and 55:1" because the intended use of composition is not patentably significant. *In re Alberton* 141 USPQ 730 (CCPA 1964); *In re Heck* 114 USPQ 161 (CCPA 1957).

The limitations of claims 10-12, 15 have been discussed above.

Regarding claim 13, Martin's etchant volumetric proportion/ratio of glacial acetic acid to hydrofluoric acid is 5:0.05/100:1 also overlaps the claimed range of 1:1 to about 500:1.

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Chandler (US 5,843,322) discloses a method for etching using a wet etching solution containing : glacial acetic acid and hydrofluoric acid (see abstract)

Response to Arguments

7. Applicant's arguments filed 3/11/2004 have been fully considered but they are not persuasive.

Applicants argue that Laou and Martin fail to anticipate every element of the presently claimed invention because the etchant in Laou and Martin includes additional components (nitric acid in Laou) and (orthophosphoric acid and nitric acid in Martin) which would materially affect the composition. This argument is unpersuasive because the MPEP section 2113 states that If an applicant contends that additional steps or materials in the prior art are excluded by the recitation of "consisting essentially of," applicant has the burden of showing that the introduction of additional steps or components would materially change the characteristics of applicant's invention. In re De Lajarte, 337 F.2d 870, 143 USPQ 256 (CCPA 1964). See also Ex parte Hoffman, 12 USPQ2d 1061, 1063-64 (Bd. Pat. App. & Inter. 1989). In addition, "consisting essentially of" renders the composition open to the inclusion of unspecified ingredient which do not materially affect the basic and novel characteristics of the composition, see Ex parte Davis et al (Bd of Appeals), 80 USPQ 448. Applicants have not submitted factual

Art Unit: 1765

evidence showing that the additional components materially affects the instant invention. Hence, claims 1, 9, are anticipated by Laou and Martin.

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Art Unit: 1765

Conclusion

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lan Vinh whose telephone number is 571 272 1471.

The examiner can normally be reached on M-F 8:30-5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nadine Norton can be reached on 571 272 1465. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



LV
May 28, 2004